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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,952	01/21/2005	Jiangron Qiu	3824-050246	2294

28289 7590 02/16/2007

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EXAMINER

LEUNG, QUYEN PHAN

ART UNIT	PAPER NUMBER
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2874

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/521,952

Applicant(s)

QIU ET AL.

Examiner

Quyen P. Leung

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13, 14 and 16 is/are allowed.
- 6) ☒ Claim(s) 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20061218
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

In response to applicant's amendment filed 12/14/2006, claims 9, 13, 16 have been amended; and claim 15 canceled. Claims 9-14, 16 are pending.

Response to Arguments

Applicant's arguments filed 12/14/2006 have been fully considered but they are not persuasive. Applicant made the following argument:

"The Uno patent, however, does not teach or suggest that the plurality of grooves are formed in the substrate by pulsed laser beam machining followed by etching an inner wall of each of the formed grooves as required by independent claim 9. Furthermore, on page 4 of the Office Action, the Examiner has admitted that the Uno patent and the other prior art of record do not teach or suggest such a feature."

In response Examiner respectfully directs Applicant's attention to MPEP 2113 and 2173.05(p), where it teaches that product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. In previous office action the examiner provided rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process. The burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art

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product. Basically the same rejection is made below as Applicant has failed to establish such evidence along with the amendment to claim 9.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Uno et al (6,240,235). Uno et al discloses a fiber array for optical communication, comprising a substrate 82 for inserting optical fibers 86 therein, and a press plate 84 for pressing and fixing the inserted optical fibers, substrate 82 having a plurality of V-grooves into which the optical fibers are placed. See Figures 12(a) and 12(b). Table 1 of Uno et al clearly indicates that the accuracy of the center-to-center dimension between the grooves (the "pitch") is always less than applicant's claimed value of $+0.5/\mu\text{m}$. The degree

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of parallelization in the groove length direction between adjacent grooves in the Uno et al device is also better than applicant's claimed "within + 0.1 degree". For evidence of this, see EXAMPLE 21 of Uno et al. With the center-to-center dimensional accuracy between the grooves at various longitudinal locations being within 1 μm , and with the length of the groove-containing substrate being 4.5 mm (i.e. 4,500 μm), simple trigonometric calculation of the angle at maximum center-to-center deviation shows the angle to be extremely less than 1 degree. [The tangent of 1° is 0.0175, whereas the tangent of the calculated angle is only 0.00022].

Claims 11 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Uno et al (U.S. Patent 6,240,235). As noted in the rejection above, Uno et al discloses V-grooves for receiving the optical fibers. The use of other shaped grooves (e.g. semicircular grooves) is also well known and widely used in the art, however. The use of semicircular grooves in Uno et al would thus have been an obvious variation to the person of ordinary skill in the art. Although not shown in the reference, to have the press plate have corresponding grooves (correspondingly shaped), so that the optical fibers are entirely enclosed in grooves when the press plate is in place over the substrate, would have been an obvious extension of the Uno et al array, since the person of ordinary skill would realize that this would hold the fibers even more securely. Regarding claim 12, Uno et al does not disclose any of the specific materials set forth in the claim, but the glasses seen in Table 2 of the reference and the discussion in column 34 (lines 50-63) of the reference would make the use of any of the claimed glass materials obvious.

Allowable Subject Matter

Claims 13-14 and 16 are allowed because Applicant has incorporated the previously indicated allowable features of claim 15 into claim 13. Neither Uno et al nor Farah et al disclose or suggest the combination of laser beam machining and etching in order to form a grooved optical fiber array.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

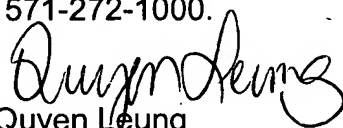
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quyen P. Leung whose telephone number is (571) 272-8188. The examiner can normally be reached on normally M-F, 6:15 am - 2:45 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Quyen Leung
Primary Patent Examiner
Group Art Unit 2874

QPL